EXHIBIT C

Expert rebuttal report of Stephen Lanchak,

dated March 13, 2020

PUBLIC REDACTED VERSION

ORACLE USA, INC., ET AL.

V.

RIMINI STREET, INC.

CASE No. 2:10-cv-00106-LRH-VCF (D. Nev.)

EXPERT REBUTTAL REPORT OF STEPHEN LANCHAK

MARCH 13, 2020

Stephen Lanchak

HIGHLY CONFIDENTIAL—ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

TABLE OF CONTENTS

			<u>e</u>		
I.	Qual	ifications	1		
II.	Assi	gnment and Summary of Opinions	3		
III.	Back	ground1	1		
	A.	Industry History	1		
	B.	The Relevant Products	3		
	C.	Maintenance and Support of Enterprise Software	4		
IV.	Analysis				
	A.	Cloud-Hosting of PeopleSoft Software and Support Materials	5		
	B. Mate	"Cross-Use" and "Distribution" of PeopleSoft and JDE Software and Support erials	1		
	C.	Copying JDE Source Code)		
	D.	Actions Involving Oracle Database)		

I. Qualifications

- 1. Counsel for Rimini Street, Inc. ("Rimini") retained my services to respond to the opinions of Oracle's expert, Barbara Frederiksen-Cross ("Frederiksen-Cross"), by providing expert opinions related to the historical industry practice and understanding of practices that Frederiksen-Cross contends are inconsistent with the permanent injunction entered in *Rimini I*. See ECF Nos. 1166, 1180; see also ECF No. 1236. As set forth in more detail below (see Sections II–III), my opinions are based on my decades of experience working with enterprise software in general and PeopleSoft and JD Edwards ("JDE") software in particular, and serving as a trusted advisor for over 60 clients, as a consultant for hundreds more, and as a third party who worked directly with PeopleSoft, Inc., JD Edwards & Co., and later, Oracle Corporation.
- 2. I am presently an Assistant Director in the Career Management Center at the Kellogg School of Management at Northwestern University. In this role, I am a member of the Kellogg Career Management team and have responsibility for career coaching in the Executive MBA program, where I oversee a team of career coaches and serve as a career and executive coach for students in the Executive MBA program. I collaborate with Kellogg faculty and staff to set career management strategies and also work directly with Executive MBA students to develop and refine their career strategies.
- 3. I worked in management and technology consulting for 33 years, 18 of which were spent working exclusively with Oracle enterprise software products (including PeopleSoft and JDE, both pre- and post-acquisition of those companies by Oracle). In my 18 years working exclusively with Oracle products, I had direct responsibility for services delivery at the clients' offices. During this time, I worked with over 300 Oracle licensees in various capacities. This knowledge and experience, as set forth in more detail below, informs my opinions in this report.
- 4. My most recent consulting role was as Senior Vice President of HCL AXON from 2010 to 2014. In this role, I was Oracle Enterprise Resource Planning ("ERP") practice leader responsible for global sales and strategy. I jointly oversaw business operations generating more than \$200 million in revenue and was specifically responsible for building a North American and

European consulting practice with the goal of leveraging offshore ERP development and support services capabilities within HCL Technologies. I also led our team's transition to the cloud by working with Oracle to build cloud-based ERP solution offerings.

- 5. Prior to this, I was a Partner with MarketSphere Consulting, where I was Midwest market leader with responsibility for, among other things, Oracle enterprise solutions delivery. In this role, I was responsible for building a regional presence in the market and with Oracle. To do so, I hired an Enterprise Solutions team in Chicago and established a productive relationship with Oracle.
- 6. I also spent over 10 years in various roles at BearingPoint/KPMG Consulting LLP ("KPMG"), most recently as Vice President. In that role, I served as Oracle Commercial Services Practice Leader, where I was responsible for Oracle ERP application and technology delivery in the Life Sciences, Products, Energy, Financial Services, and Communications/Media industries. I was responsible for North America practice strategy, business development, and client engagements. I oversaw a team of several hundred people and also had direct responsibility for client relationships, sales, and project delivery. In addition, I served as Global Oracle Market Leader, responsible for strategy and leadership of Global Oracle business development, marketing, and solution development teams. This role involved working with the global teams to make sure we had consistent sales messages, shared knowledge capital, and supported each other with resources when needed.
- 7. In addition, while at KPMG (as a Managing Director), I had a leadership role in the firm's effort to integrate the separate Oracle software product lines (PeopleSoft, JDE, and Siebel) into a single North American operating unit once Oracle had completed its acquisition of these companies.
- 8. Earlier in my practice with KPMG, I served as Practice Managing Director and Practice Leader with oversight responsibility for nine managing directors and over 240 practice personnel.

- 9. Prior to joining KPMG, I served as a Consultant and later Associate Partner with Andersen Consulting/Accenture. With Andersen Consulting/Accenture, I operated as a financial services systems integration consultant, serving banks and diversified financial services companies. My practice was primarily focused on technology strategy and planning, systems development and integration, business process reengineering, and mergers/consolidations.
- 10. I hold Bachelor of Science and Master of Business Administration degrees from the University of Texas at Austin.
- 11. My curriculum vitae is included as Exhibit A to this report. The hourly rate charged by Eleven Canterbury for my work on this matter is \$800 per hour. I have no financial interest in the outcome of this post-trial proceeding, nor is payment dependent on any particular opinion provided.

II. Assignment and Summary of Opinions

- 12. As described in more detail below, I have been asked by counsel for Rimini to respond to the opinions offered by Frederiksen-Cross and to provide opinions concerning historical industry practice and understanding as it relates to support and maintenance of PeopleSoft and JDE, two enterprise software applications for which Rimini offers and provides support to its clients. I have also been asked to respond to Frederiksen-Cross's opinions concerning Oracle Database, as those opinions concern Rimini's support of clients that operate PeopleSoft and JDE applications that interface with Oracle Database software.
- 13. I have reviewed the permanent injunction issued in *Rimini I* (as narrowed by the Ninth Circuit, which I refer to as the "Injunction"); Oracle's June 28, 2019 letter, which "describ[es] conduct disclosed in *Rimini II* ... which Oracle contends would violate Judge Hicks' injunction if it continued after the injunction was effective"; Rimini's August 5, 2019 response to that letter; the Ninth Circuit's August 16, 2019 opinion on Rimini's appeal of the Injunction; Oracle's August 16, 2019 letter purporting to modify its June 28, 2019 letter based on the Ninth

¹ Oracle USA, Inc. v. Rimini Street, Inc., 783 Fed. App'x 707 (9th Cir. 2019).

Circuit's opinion; and the January 31, 2020 "Post-Injunction Report" of Frederiksen-Cross. I also incorporate by reference my expert reports in *Rimini Street, Inc. v. Oracle International Corp. et al.*, Case No. 2:14-cv-1699 ("*Rimini II*"), and the documents considered in connection with those reports. I have also had access to materials exchanged both in *Rimini II* and this post-trial proceeding. In addition to the materials identified in my *Rimini II* expert reports, I also identify in Exhibit B to this report those materials I received, examined, or reviewed in preparing my opinions in this report.

- 14. In her report, Frederiksen-Cross opines that Rimini violates the Injunction in several ways. For purposes of my analysis in this report only, I have generally grouped my discussion of the practices she discusses into the following four categories: (i) cloud-hosting PeopleSoft software and support materials; (ii) so-called "cross-use" and distribution of PeopleSoft and JDE software and support materials; (iii) copying JDE source code; and (iv) activity involving Oracle Database.
- 15. It is my understanding, based on my professional judgment and decades of experience in the ERP implementation, maintenance, and support industry, that certain terms and practices have a common understanding and meaning among software providers, third-party support providers, and other relevant parties. My opinion, informed by my own professional experience and consideration of the materials I reviewed, is that the conduct that Frederiksen-Cross claims violates the Injunction in this post-trial proceeding includes practices that are and have historically been widely understood and accepted in the industry as permissible uses of enterprise software under relevant ERP software licenses, including in the context of receiving third-party support for or self-supporting the relevant software products. Moreover, as discussed further below, the conduct that is the subject of Frederiksen-Cross's opinions in her post-trial expert report includes conduct that was never at issue or adjudicated in *Rimini I*. Further, it is my opinion, based on my professional experience and consideration of the materials I reviewed, that the industry would not understand the Injunction to prohibit the practices that Frederiksen-Cross

claims it prohibits, because such practices are and have historically been widely understood and accepted in the industry.

16. The following is a summary of my opinions as they relate to the practices Frederiksen-Cross contends violate the Injunction:

Cloud-Hosting of PeopleSoft Software and Support Materials.

17.

.² I am aware of this Court's orders regarding local hosting on Rimini systems, which is different from the cloud hosting discussed in Frederiksen-Cross's report. It is my understanding that Oracle never claimed that cloud hosting infringed its copyrights in *Rimini I* and that this issue is being raised for the first time in this case in the context of this post-trial proceeding.

18. In my experience, licensees of ERP software host their software (as well as documentation and related materials) on computing resources in various locations according to their business needs. These locations may include, for example, computing resources that licensees own that are located at the licensees' physical place of business (e.g., a licensee's servers located at the licensee's headquarters), computing resources that licensees own (or lease) that are located at a location owned (or leased) by a third party (e.g., a licensee's servers located at a third-party data center), and computing resources that licensees lease that are located at a third-party cloud provider (e.g., a licensee's virtual servers hosted in the provider's cloud infrastructure). There are no inherent functional differences between the licensee's computing resources in any of those locations, although there are often significant advantages for licensees to use cloud-based computing resources (e.g., cost savings, efficiency, performance, security, and scalability). When licensees host their software in the cloud (or at any third-party location such as a data center), it is standard industry practice for those licensees to retain control over, access to, and use of that

² Frederiksen-Cross Rep. ¶ 38.

software. In every meaningful sense, a licensee's cloud computing resources are its "own computer systems." Because of its advantages, for many years, the industry has moved increasingly toward cloud-based hosting. Oracle, in fact, encourages licensees of Oracle software (including PeopleSoft) to host their software in the cloud, and the industry understands that licensees are permitted to do so. Oracle and other third-party support providers (*i.e.*, Rimini's competitors) offer and provide support services to licensees that host their Oracle software on cloud computing resources. To my knowledge, Oracle has never taken the position (other than in *Rimini II* and this post-trial proceeding) that a licensee is not permitted to host Oracle software on the licensee's cloud-based computing resources.

19. Thus, and as discussed in more detail below, *see* Section IV.A, it is my opinion, based on decades of work in this field, and the materials I have reviewed in this post-trial proceeding and in *Rimini II*, that PeopleSoft licensees understand that hosting their software in the cloud (including Windstream's cloud) is not prohibited by their licenses, and that in every meaningful sense, their cloud computing resources *are* their own computer systems. The industry would therefore understand the phrase "own computer systems" in paragraph 5 of the Injunction to include cloud computing resources.

Materials.

20.

4

"Cross-Use" and "Distribution" of PeopleSoft and JDE Software and Support

³ Injunction \P 5.

⁴ Frederiksen-Cross Rep. ¶¶ 40, 44.

- 21. I disagree with these opinions for a number of reasons. In my experience, "crossuse" is not a term generally used in the industry, and, in my opinion, Frederiksen-Cross's broad use of this term covers many widely accepted and common application support processes in the industry. For example, in my experience, it is a common and accepted software development practice for a consultant or software support engineer to create a "spec" document or instructions after creating a fix or update for a licensee in the licensee's environment, and then to rely on that "spec" document or instructions to create updates or fixes for other clients operating the same or similar software. It is also my opinion that it is a common and accepted industry practice for consultants and support engineers to leverage knowledge and experience gained while working for one client to implement similar or identical fixes or updates to other clients operating the same or similar software. Consultants and support engineers also develop their own internal work product reflecting that knowledge, and will use that work product to solve similar or identical problems for other clients. Other third-party support providers (i.e., Rimini's competitors) engage in (and have long engaged in) these practices. It is my opinion that prohibiting a consultant or support provider from leveraging her knowledge and experience gained from one client for use with other clients would be impractical and unworkable in the real world, and would effectively prohibit third-party support altogether. Consultants cannot unlearn the experience and knowledge they gain from servicing clients (or refrain from getting better and faster at their jobs as they do). It is also not standard industry practice, and it would be commercially impractical, for service providers to be prohibited from documenting their experience and knowledge, or developing their own tools, instead forcing them to reinvent the wheel for every client.
- 22. Thus, and as discussed in more detail in Section IV.B, it is my opinion, based on my experience and the materials I reviewed in this post-trial proceeding and in *Rimini II*, that the

⁵ See, e.g., id. at ¶¶ 188–194, 206–208, 283–289, 301–302, 304.

industry understands that developing and testing updates for a small set of customers (or a single customer), and then using such knowledge and experience to implement updates for other customers operating the same or similar software is common and accepted practice. It is also my opinion that a software engineer's creation and use of work product reflecting knowledge and experience gained in resolving a problem for one client, and using that work product in connection with development work for other clients, is common and accepted industry practice that the industry understands to be permissible under the terms of the software licenses. For all of these reasons, the industry would not understand the Injunction, as Frederiksen-Cross interprets it, to prohibit these practices.

Copying JDE Source Code.

23.		

24. Frederiksen-Cross's opinions cannot be reconciled with industry understanding and standard industry practice. As a preliminary matter, Frederiksen-Cross but fails to acknowledge that the term can have different meanings in different contexts, and fails to address the specific language and context here, including the Court's use of the phrase: "J.D. Edwards software source code"—i.e., the source code of the J.D. Edwards software program, and not "source code" generally, or in the abstract. Frederiksen-Cross's opinions thus ignore the fundamental aspects of JDE software, including that

 $^{^6~}$ Frederiksen-Cross Rep. at 113, $\P\P$ 305–306.

⁷ *Id.* at \P 46.

⁸ *See id.* at ¶ 313.

⁹ Injunction ¶ 8 (emphasis added).

JDE was designed to be customized by the licensee (or a third party acting on the licensee's behalf), that there are multiple types and levels of JDE code—including "Open" and "Closed" Code, defined further in paragraph 69 below—and that the intended customizations, as well as meaningful support of JDE, requires copying and modification of the "Open" Code portions of JDE software.

contrary to the industry understanding and meaning of JDE software. Further, and as discussed further below, *see* Section IV.C, it is my opinion that the industry would understand the Injunction's prohibition against "copy[ing] J.D. Edwards software source code to carry out development and testing of software updates" as prohibiting only the decompiling of JDE Closed Code, and not, as Frederiksen-Cross contends, accessing or copying JDE Open Code.

25.

inconsistent with the way in which the industry understands that Oracle licensees may use their JDE software, and reflects a misunderstanding of how the software itself operates. In my experience, it is widely understood in the industry that creation of RAM copies of JDE software by a licensee, or by a licensee's third-party support provider, is a permissible use of JDE software. In fact, the industry understands the creation of RAM copies (*i.e.*, copying software "into computer memory") to be a necessary function of the software itself, and to occur any time the software is operated.

practice concerning how licensees and their third-party support providers use JDE software, and would also effectively preclude Rimini from providing support for JDE altogether because it is impossible to support JDE clients without loading their software "into system memory" (*i.e.*, without making RAM copies). My understanding, based on the history and common use of third-party support in the industry, as well as from statements in the Ninth Circuit opinion and from the district court in the Injunction itself, is that third-party support *is* permitted. For example, there are provisions in the Injunction addressing how Rimini can or cannot "distribute," "reproduce,

prepare derivative works from, or use" JDE software or documentation. The fact that the Injunction limits the manner in which Rimini can provide support—but does not prohibit it altogether—is consistent with my understanding and experience in the industry that third-party support is widely accepted. For all of these reasons, it is therefore my opinion that the industry would not understand paragraph 8 of the Injunction to prohibit in-memory copies of JDE software (*i.e.*, copying "into system memory").

Actions Involving Oracle Database.

Oracle Database, and not the creation of in-memory copies.

26.

I disagree. Based on my decades of experience in the field, and the
materials I reviewed in this proceeding and in Rimini II, my opinion is that the industry would
understand a prohibition on "reproduction" to pertain to the creation of unlicensed instances of

27. Based on my review of records in the post-trial proceeding, I understand that Oracle did not contend in *Rimini I* that in-memory copies (*i.e.*, RAM copies) of Oracle Database constituted copyright infringement. Instead, Oracle argued in *Rimini I* that Rimini could not host on its own servers instances of Oracle Database downloaded from Oracle's websites pursuant to a "developer license" or as authorized by Rimini's clients (Oracle licensees), and also that Rimini could not make copies of "locally hosted" environments of Oracle Database or use "locally hosted" environments to develop software updates that were distributed to multiple clients.¹² Frederiksen-Cross offers no evidence or opinions in her report on these *Rimini I* arguments.

¹⁰ See Injunction ¶¶ 7, 9–10.

¹¹ Frederiksen-Cross Rep. ¶ 358.

¹² See Rimini I, ECF No. 417 (Oracle Motion for Summary Judgment).

28. In my experience, the industry does not understand the creation of in-memory copies (*i.e.*, RAM copies) of Oracle Database to be in conflict with Oracle's software licenses, nor does the industry consider the creation of RAM copies to otherwise violate Oracle's intellectual property rights. To the contrary, the creation of RAM copies is widely considered to be a necessary function of a user's (or third-party support provider's) use of the software because any time a user of Oracle Database loads the software (whether to support the software or simply to operate it), RAM copies are made. In other words, the software cannot function without creating RAM copies, and the creation of RAM copies is understood in the industry to be a necessary function of Oracle Database software.

is not only inconsistent with industry understanding, but it would also effectively prohibit Rimini from supporting any ERP application that uses or relies on Oracle Database, even applications that were not at issue in *Rimini I*, such as *non-Oracle* applications developed by other companies (*e.g.*, SAP). And, again, it is my understanding, based on the history and common use of third-party support in the industry, as well as from statements in the Ninth Circuit opinion and from the district court in the Injunction itself, is that third-party support *is* permitted. It is my opinion that the industry would not understand the Injunction to prohibit the creation of in-memory copies of Oracle Database as Frederiksen-Cross claims in her report.

29. I may have additional opinions and conclusions as I receive additional information, including in response to any opinions offered by any expert witness put forth by Oracle. I reserve the right to supplement and modify the opinions in this report.

III. Background

A. Industry History

30. The Background section of this report is intended to set forth facts that describe the industry and provide context for my opinions, including an overview of the history of the relevant industry players and the products they developed, the general industry understanding of the text of Oracle licenses for PeopleSoft and JDE, as well as background on support and maintenance practices for those products.

- 31. Both PeopleSoft and JDE, the applications at issue in this proceeding, were designed, developed, and supported by companies other than Oracle prior to the early 2000s. The applications were developed at different points in time, beginning in the late 1970s, to address different enterprise business needs.
- 32. ERP had its origin in the early 1980s, when it was called Material Requirements Planning ("MRP") and later Manufacturing Requirements Planning ("MRPII"); it originated as software focused on automating the end-to-end manufacturing process. Over time, businesses began shifting focus from the manufacturing process and began applying these concepts to the broader enterprise with an emphasis on "back-office" business processes (meaning those focused on core business support processes), such as finance, human resources, supply chain, procurement, and payroll. The drivers for this expansion included a desire to manage day-to-day business activities on an integrated basis and to provide a "single source of the truth" (*i.e.*, the practice of structuring information models and data schemes in a manner that results in all elements of data being stored once). Other benefits of ERP included lower costs through more efficient operations, improved business insights by being able to analyze data on an aggregate basis, reduced risk by having better control over data, and more efficient support of computer systems.
- 33. Both PeopleSoft and JDE were highly customer-focused, with early customers of these companies having latitude in determining how their software would operate and what functionality future releases would contain. Customer and vendor personnel often worked side-by-side in trouble-shooting and supporting the new software.
 - 34. In the 1970s, 1980s, and 1990s, Oracle was primarily a database software company.
- 35. After 2000, the industry began to change. ERP vendors had to deal with a market downturn, and a new focus on the internet, new internet architectures, and "e-business" applications to take advantage of the new internet architectures. Also, at this time, there was a shift in focus to "front-office" (market-facing applications) automation, industry specialization, and using ERP and the "back-office" only as an e-commerce backbone for new application development and acquisitions.

36. The post-2000 period was also a time of consolidation. PeopleSoft merged with JDE in the early 2000s. Oracle then acquired PeopleSoft (and, as a result, JDE) shortly thereafter. Over the next approximately five years, Oracle acquired additional companies operating in this sphere such as Retek, BEA Systems, and Sun Microsystems.

B. The Relevant Products

- 37. **JD Edwards.** The JDE product line originated as a suite of enterprise applications geared for small- and medium-sized businesses running on IBM minicomputers ("World" product line). This line was expanded in the 1990s to include a platform-independent version called "OneWorld," and, since the Oracle acquisition, is now known as "EnterpriseOne." This software line is wide-ranging and includes Financial Management, Project Management, Asset Lifecycle Management, Order Management, Manufacturing, Human Capital Management, Supply Chain, etc. Oracle provides JDE licensees with Object Management Workbench ("OMW"), which is a development tool that licensees can use to customize and maintain their software. JDE is generally suited for medium-sized companies in asset-intensive industries, including manufacturing/distribution, construction, and consumer goods.
- 38. *PeopleSoft Enterprise*. The PeopleSoft Enterprise software line includes Human Capital Management, Financial Management, Customer Relationship Management, Enterprise Performance Management, Supplier Relationship Management, Supply Chain Management, Public Sector, and Campus Solutions, to name a few. PeopleSoft's market niche has generally been service-oriented companies, higher education, and federal, state, and local governments. Oracle also provides PeopleSoft licensees with PeopleTools—a set of reporting and software development tools that licensees can use to tailor their software products to their unique business requirements. PeopleSoft was designed to operate on a variety of relational databases.
- 39. Both PeopleSoft and JDE are highly configurable applications, allowing licensees to tailor the software to their individual business needs. Customizations are also common, expected, and frequently necessary in the industry because the software is built to cover a wide variety of customers that operate in very different industries with very different business models.

Although customers can achieve a certain level of tailoring through configuration of the software, in my experience, there are countless unique business requirements that can only be met through customization. Customization is so prevalent and expected that certain lines of code in the software applications are reserved for customer use (e.g., User Defined Codes in JDE enable customers "to categorize data and make sure that users provide consistent input on forms.").¹³ It is also widely understood in the industry that if a licensee upgrades the version of the software it runs, its customizations will most likely be lost, and it is common for a licensee to choose not to upgrade its software for this reason.

40. *Oracle Database*. Also known as Oracle RDBMS, Oracle Database is relational database software, which is designed to support the data management needs of various enterprise software applications. In other words, ERP applications (both Oracle and non-Oracle) use and rely upon a data management layer, which can be Oracle Database. Customers (both those that run Oracle applications and those that run non-Oracle applications) thus utilize Oracle Database as an engine to store and manage their enterprise data.

C. Maintenance and Support of Enterprise Software

41. Enterprise software applications are complex assets that contain many millions of lines of computer code. This code can contain bugs that may not surface until a unique set of conditions are encountered. Additionally, the business conditions that these applications were initially designed for are continually changing due to new business requirements, government regulation, statutory requirements, etc., that can vary from state to state and country to country. It is industry custom and practice that these applications are refined iteratively through fixes and patches, which are provided by support and maintenance engineers.

ORACLE, Working with User Defined Codes, ORACLE HELP CENTER, https://docs.oracle.com/cd/E17984_01/doc.898/e14721/user_defined_codes.htm (last visited Sept. 2, 2019). Unless otherwise noted, the deposition testimony and discovery responses cited in this opinion were produced in *Rimini II*.

¹³ See Jacob Dep. (12/1/17) 22:5–11

- 42. In addition to selling licenses for the use of its software lines, Oracle also sells separate contracts to maintain and support the software (frequently referred to as "maintenance contracts" or "support contracts"). These contracts entitle customers to receive Oracle-created upgrades, patches (*i.e.*, a piece of software that is created in order to update another piece of software/program to either fix an issue within the program or to improve it), and periodic Tax, Legal, and Regulatory ("TLR") updates for Oracle's software, as well as break/fix support services (*i.e.*, a method of providing support to customers on an incident-by-incident basis as errors and problems arise while the customer utilizes the product).
- 43. In my experience, although a licensee is not required to receive support from Oracle—and can instead "self-support" the software or contract with a third party for support—most licensees contract with Oracle for support. As long as a licensee has an active Oracle support contract, Oracle allows the licensee to continue to upgrade to the latest software versions as they are released. When customers decide that they are satisfied with older, customized—and, in some cases, more stable—versions of Oracle's products, the customer may choose to retain those older versions of the software. However, as a version ages, Oracle limits its support and maintenance for that version. This process involves Oracle offering declining levels of support services to licensees that elect not to update to the current version of the software.
- 44. In my experience, it is commonly understood in the industry that licensees of Oracle enterprise software that wish to continue using older versions of software, and/or to operate customized versions of the software, must either pay Oracle to upgrade to a newer version (if the customer wants to continue to receive Premier or Extended Support from Oracle) and risk losing customizations, or terminate their support contracts with Oracle and either self-support or contract with a third party for support.
- 45. As an alternative to Oracle or self-support, it is standard industry custom and practice for Oracle licensees to contract with third-party support providers to serve their needs. Rimini is one of those third-party support providers.

IV. Analysis

A. Cloud-Hosting of PeopleSoft Software and Support Materials

46.

47. I am aware that paragraph 5 of the Injunction states that Rimini may not "reproduce, prepare derivative works from, or use PeopleSoft software and documentation on, with, or to any computer systems other than a specific licensee's own computer systems." I am also aware that some legacy PeopleSoft licenses permit licensees to install software only at the "Licensee's facilities" (sometimes referred to as a "facilities restriction"). ¹⁶ I am also aware of this Court's orders regarding local hosting on Rimini systems, which is different from the cloud hosting discussed in Frederiksen-Cross's report. Frederiksen-Cross contends that a licensee's cloud-based computing resources do not constitute that licensee's "own computer systems," but in my experience, such a position is contrary to the industry understanding (including the understanding of licensees and other third parties) of the terms of their software licenses. For many years, the industry has moved increasingly toward cloud-based hosting, and today it is common for licensees to host their ERP software in the cloud. Given the multitude of hosting options available today. as well as the ubiquity of the cloud in general, customers have not generally interpreted a "facilities restriction" to prohibit cloud-hosting. To the contrary, the industry understands that, in every meaningful sense, a licensee's cloud computing resources (i.e., its virtual servers) are its own systems, and industry practice reflects this understanding.

¹⁴ Frederiksen-Cross Rep. ¶ 38.

¹⁵ Injunction ¶ 5 (emphasis added).

 $^{^{16} \ \}textit{See}, \textit{e.g.}, \texttt{ORCLRS0162791}; \texttt{ORCLRS1300162}.$

- 48. As discussed earlier in the summary of my opinions, in my experience, licensees of ERP software host their software (and related documentation and materials) in a variety of locations according to their business needs, which can include hosting them at their own physical place of business, or renting space from a third-party provider at the provider's data center or in the cloud. There are no inherent functional differences for a licensee between hosting the software at the licensee's physical place of business or hosting it remotely at a third-party data center or in the cloud. Some licensees may prefer to contract with a third party to host their software for cost or other reasons. It is industry practice for licensees to retain control over, access to, and use of their software whether they host it themselves or contract with a third-party to host it for them.¹⁷
- 49. Based on my experience in the industry, I know that a licensee's choice to remotely host its software can be beneficial to that licensee in a number of ways. For instance, many cloud servers generally maintain a 99.9% "uptime," which most licensees cannot match with the servers at their physical place of business. Additionally, by using the cloud, a licensee can pay for only the server and capacity it uses, which can lead to lower costs. And by hosting in the cloud or third-party data centers, a licensee is not responsible for equipment purchases or operating costs. Oracle itself offers and provides support services to licensees that host their Oracle software on cloud computing resources. The materials I reviewed in this proceeding and in *Rimini II* support my understanding of industry practice by showing that Oracle agrees that use of the cloud provides benefits to licensees relating to price and convenience, among other things. For example, in her deposition, Safra Catz, Oracle's CEO, identified benefits of hosting on the cloud, explaining, "another provider is handling your daily maintenance. And also, it's up and running so you don't have to buy your own computers." Ms. Catz concluded that hosting on the cloud "may be

¹⁷ See, e.g., Waide Dep. (10/17/19) 34:10–35:6, 36:18–37:16.

Depending on the type of service, the service-level agreements ("SLAs") can vary, but generally at a minimum, it must be 99.9% to be competitive in the market.

¹⁹ Catz Dep. (2/16/18) 68:11–22.

cheaper. It may be easier."²⁰ This testimony is consistent with how the industry understands the benefits of cloud hosting.

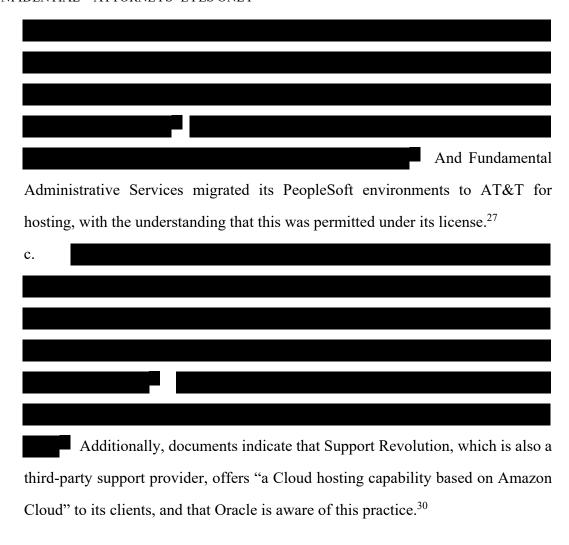
- 50. As one example of the industry's understanding on the permissibility of cloud hosting, I previously participated in conversations with Des Moines Water Works—one of the businesses referenced in Frederiksen-Cross's report as being "associated with Windstream environments" concerning hiring a third party to host their PeopleSoft applications. Based on my observations and conversations at the time, it was clear that PeopleSoft was aware that these conversations were occurring and had expressed no concerns about third-party hosting of its applications, and neither Des Moines Water Works, nor any of the other parties involved, understood PeopleSoft licenses to preclude this third-party hosting.
- 51. In addition to my own experience and knowledge, the documents and deposition testimony I reviewed in this post-trial proceeding and in *Rimini II* confirm that it is industry custom and practice for licensees to host software in third-party data centers or in the cloud, and to consider these data centers or cloud locations to be their own computer systems.
 - a. As one recent example, current Rimini client Easter Seals testified that it considers its Windstream cloud account to be its own computer system.²² And, the testimony from Windstream itself is that its customers' cloud accounts are the customers' own computer systems.²³
 - b. The deposition testimony of current and former Rimini clients in *Rimini II* confirms that licensees hosted their software in many different locations. For instance, UNICOM Government testified that

²¹ See Frederiksen-Cross Rep. \P 177.

²⁰ *Id.* at 68:23–24.

Hoyt Dep. (9/20/19) 20:19–21 ("Q. So, going back then, because you purchased it, do you consider it to be your system? A. Yes.").

Waide Dep. (10/17/19) 37:18–20 ("Q. And so would you consider that cloud account part of the client's computing resources? A. Yes.").



²⁴ Roudebush Dep. (2/27/18) 22:3–24:11.

²⁵ Jameson Dep. (7/12/17) 121:8–122:24.

²⁶ Myers Dep. (1/27/17) 152:3–7.

²⁷ Metcalfe Dep. (2/28/18) 23:14–24:10; 25:17–26:7; 33:18–34:25; 35:13–36:17. Oracle contends that it could not locate a copy of Fundamental Administrative Services' license, but represented that it was the same as the City of Flint's, which included a facilities restriction.

²⁸ Brua Dep. (1/23/17) 83:11–84:15.

²⁹ *Id.* at 83:24–84:2.

ORCLRST00606019; see also Third-Party Maintenance: Simple, Really!, E-3 Magazine (June 11, 2019), https://e3zine.com/2019/06/11/third-party-maintenance-support/ (interview with Mark Smith, CEO of Support Revolution, in which he notes that "we offer a number of valued-

d.	Moreover, the materials I reviewed in this proceeding show that Oracle
itself i	s aware and has approved of customers hosting their Oracle software in the
cloud.	
	Oracle's Chief Executive Officer, Safra
Catz. a	agreed that a customer can use its existing Oracle licenses for various ERI

Catz, agreed that a customer can use its existing Oracle licenses for various ERF applications, including PeopleSoft, to run its applications on the Amazon cloud.³²

e. My review of this deposition testimony also revealed that Oracle was made aware, through audits it conducted, of companies utilizing third-party hosting facilities, and that Oracle did not object to the practice, which is consistent with industry practice and understanding.³³ For example, UNICOM testified that it understood it was "permitted, under its license agreements, to host its PeopleSoft software in a cloud environment," and that it did, in fact, do so.³⁴ During the course of an Oracle audit, UNICOM disclosed the location of its servers to Oracle, and Oracle never "raise[d] any objection to the location of those servers."³⁵ This testimony is consistent with, and further supports, my understanding that it is industry custom and practice for Oracle licensees to host their software in the cloud and other third-party data centers.

added services that Rimini Street does not, including Cloud Hosting for SAP and Oracle products").

³¹ Ellison Dep. (2/27/18) 82:17–83:5.

³² Catz Dep. (2/16/18) 83:16–84:3.

³³ Roudebush Dep. (2/27/18) 45:9–24.

³⁴ *Id.* at 44:18–22; 24:8–11.

³⁵ *Id.* at 45:9–24.

52. It is thus my opinion, based on decades of work in this field and the materials I reviewed in this post-trial proceeding and in *Rimini II*, that Oracle's PeopleSoft licensees understand that hosting their software in the cloud or other third-party data centers is not prohibited by their licenses, and that in every meaningful sense, their cloud computing resources *are* their own systems. It is also my opinion that the industry would understand the phrase "own computer systems" in paragraph 5 of the Injunction to include licensees' cloud computing resources.

В.	"Cross-Use"	and	"Distribution"	of	PeopleSoft	and	JDE	Software	and	Support
	Materials				_					

53.	Frederiksen-Cross opines that

54. I understand that certain licenses contain language stating that the licensed software must be used "solely" for the licensee's "internal data processing operations." In my experience, the industry has understood such provisions to protect software vendors against licensees essentially re-licensing the software to other businesses, *i.e.*, acting as a "service bureau" to other companies (for example, a licensee of PeopleSoft HCM using its license to support other companies' payrolls), and to protect against licensees going into the software development business by using the software to reverse-engineer and develop their own versions of these

³⁷ *Id.* at ¶¶ 98–107.



³⁶ Frederiksen-Cross Rep. ¶¶ 40, 44.

software packages. The industry understanding of such language was not,

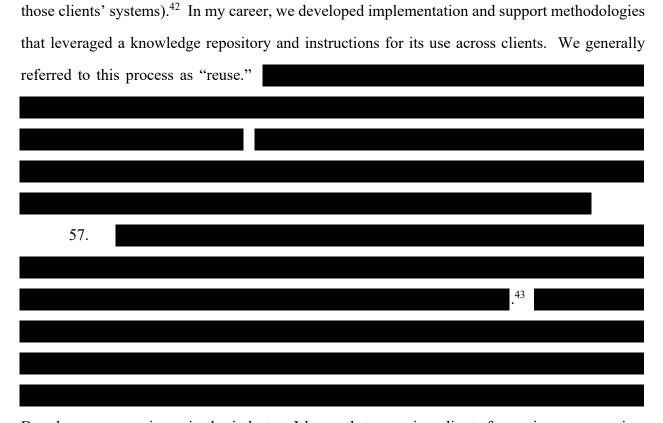
that it restricted or prevented third-party support providers from leveraging their know-how, customizations, or other work product in support of multiple licensees/clients.

- 55. As noted above, the term "cross-use" is not generally used in the industry, and I was not aware of the term until my work on *Rimini II*. My understanding, based on review of the materials in *Rimini II* and this post-trial proceeding, is that Oracle coined this term for purposes of the litigation against Rimini. This understanding is bolstered by the fact that, based on my review of the records, Oracle has radically expanded its definition of "cross-use" over time from *Rimini I* to *Rimini II*. In *Rimini I*, Oracle defined "cross-use" to mean "the use of one customer's licensed software to support other customers." In its initial motion for a permanent injunction, Oracle expanded this definition to "the copying and use of one customer's licensed software and derivative works to support other customers in violation of the customer's license." Oracle now uses an even further expanded definition of the term, contending that many additional processes common to the enterprise software implementation and support industry constitute "cross-use."
- 56. For example, Oracle claims that it is "cross-use" to "develop[] ... software updates (including both code and documentation)" for PeopleSoft and JDE software "using one or more environments associated with a small number of customers, and then provid[ing] those updates to and for the benefit of multiple customers." I understand that in *Rimini II*, Oracle also has stated that it would be impermissible for a Rimini engineer to use expertise or knowledge gained from developing an update for one client in that client's system to fix a similar issue for other clients (in

³⁹ Rimini I, ECF No. 417 (Oracle Motion for Summary Judgment) at 1.

⁴⁰ Rimini I, ECF No. 900 (Oracle Motion for Permanent Injunction) at 1.

⁴¹ Letter from John A. Polito, Counsel, Oracle, to Mark A. Perry, Counsel, Rimini (June 28, 2019) at 1–2.



Based on my experience in the industry, I know that grouping clients for testing purposes is a leading practice among support providers. Throughout my career providing Oracle application services, it was common to employ testing techniques similar to the "short" and "long" testing that Rimini uses in some instances. For example, in my previous work experience, it was common to utilize a testing lifecycle comprised of Unit, String, Integration, and User Acceptance Testing for many of the objects being developed.⁴⁴ It was also common to utilize an object from a shared repository that had already been developed and tested for another client. In these cases, the support

⁴² Rimini II, ECF No. 925-1 (Frederiksen-Cross Dep. Tr.) at 232:7–234:21 (testifying that it is "cross-use" for an employee to use knowledge gained supporting Company A's Oracle software to support Company B).

⁴³ Frederiksen-Cross Rep. ¶¶ 41, 100.

Tom Mochal, *Integration Testing Will Show You How Well Your Modules Get Along*, TECHREPUBLIC (Sept. 10, 2001, 12:00 A.M.), https://www.techrepublic.com/article/integration-testing-will-show-you-how-well-your-modules-get-along/.

providers would "short" test these repository objects by only including them in Integration testing because they had already been Unit and String tested. Testing resources were also grouped by software version so that, for example, common test scripts and testing procedures could be developed for PeopleSoft 9.1 and other ERP software versions.

58. Further, in my experience, prototyping in a single environment, often called a "sandbox," is a development technique regularly performed by support providers, including many Oracle partners. These sandboxes would be maintained at the client sites and also within the service provider firm. For example, in my previous work experience, we maintained dozens of sandbox/solution/demo environments for Oracle software products on our own servers. Many support providers, especially those engaged in Application Development Management, will group together clients that have the same or similar code. It is common for implementation and application management providers to design and develop code, pseudocode, technical and functional specifications, and other components, including test scripts, configuration guides, and upgrade scripts, in one client's environment. This information is then transferred to the provider's knowledge repository and is used to support other clients. These practices are prevalent throughout the industry.

The driver behind this initiative, and similar initiatives from other support providers,

is that the best ideas and reusable solutions evolve from real client situations.59. I understand from my review of materials that Rimini's process of implementing

TLR updates for its PeopleSoft and JDE clients can involve creating scripts, which are used to

⁴⁵ See, e.g., Development Sandboxes: An Agile 'Best Practice,' AGILE DATA, http://www.agiledata.org/essays/sandboxes.html (last visited Sept. 2, 2019).

make data changes to tax data tables within the software.⁴⁶ Other updates involve creating code changes or object changes. Updates are implemented within each client's development environment.⁴⁷ These updates are tested within each client's test environment.⁴⁸

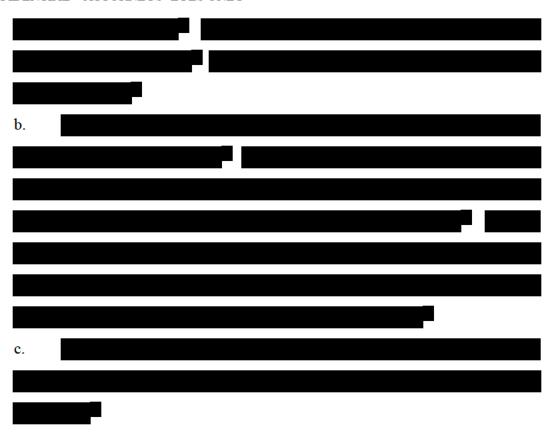
60. It is my opinion, based on my experience in the industry, that the processes and conduct Oracle claims in this post-trial proceeding would violate the Injunction are in fact widely utilized by many consultants and support providers in this industry. It is commonly understood that a consultant's or support engineer's value is derived in part from his or her knowledge and prior experience troubleshooting and developing in particular software lines. Prohibiting a consultant from leveraging that knowledge and experience for use with other clients would be impractical and unworkable in the real world. For example, it is common for service providers to leverage knowledge and experience to implement similar or identical fixes or updates to more than one client. In my career, which includes my experience with HCL Technologies' Application Support and Maintenance ("ASM") practice, the leveraging of knowledge and experience to implement similar or identical services to multiple clients was standard operating procedure. Furthermore, based on my industry experience, I know that most of Oracle's partners in the Oracle Partner Network ("OPN") that perform implementation and Application Management Services utilize these very same practices.

61.	
a.	

Rimini's Fourth Suppl. Resps. & Objs. to Interrog. No. 2 at 31:10–26 (PeopleSoft); Rimini's Suppl. Resps. to Interrog. Nos. 32, 33 and 34 at 29:14–20 (JDE).

⁴⁷

⁴⁸ See Rimini's Fourth Suppl. Resps. & Objs. to Interrog. No. 2 at 30:26–31:6 (PeopleSoft); Rimini's Suppl. Resps. to Interrog. Nos. 32, 33 and 34 at 29:14–20 (JDE).



⁵³ *Id*.



⁵⁵ Simmons Dep. (12/1/11) 120:14–25.

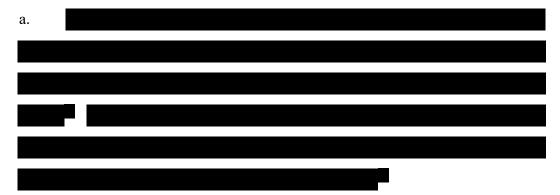
⁴⁹ Brua Dep. (1/23/17) 215:11–13.

⁵⁰ *Id.* at 217:22–218:1

⁵¹ *Id.* at 215:15.

⁵² *Id.* at 46:22–47:13.

62. That it is common industry practice to leverage knowledge and experience to provide similar or identical services to multiple clients is further supported by the testimony of current and former Rimini clients.



- b. Similarly, Toll Brothers testified that it knew TLR updates would not necessarily be developed initially on its environments. The company's corporate representative, Ms. Myers, testified that TLR updates "would be applied to any customer, not just Toll Brothers" so Rimini "wouldn't develop the solution on our code." Her understanding of this was based on "[n]ormal software development." Ms. Myers further testified that it would be reasonable for any software developer to "use original work that's created for one client on a software code for another client with the same product."
- c. Snelling Holdings' corporate representative also testified that it would *not* be "objectionable" to the company if a Rimini engineer wrote new code for a TLR

⁵⁶ Sullivan Dep. (3/27/17) 95:17–24.

⁵⁷ *Id.* at 97:22–98:3.

⁵⁸ Myers Dep. (1/27/17) 93:6–9.

⁵⁹ *Id.* at 92:23–25.

⁶⁰ *Id.* at 147:3–9.

update and then used that knowledge and experience to provide similar updates to Snelling.⁶¹

I disagree with these opinions.

64. Based on my experience in the industry, and my review of materials produced in this proceeding, Dev Instructions are a type of "spec" (specification) document, the use of which is a common and accepted software development practice. "Spec" documents serve as a blueprint for implementing an update or other solution to a problem. Consultants and support engineers can and commonly do use "spec" documents created from an update or fix for one client to create updates and fixes for other clients operating the same version of the software. Reusing assets and developing functional and technical "specs" based on our expertise working with Oracle enterprise software products was a large part of the practice development activities performed throughout my career and, in particular, a large part of the application maintenance and support practice at HCL Technologies. Third-party support providers, such as Application Support and Maintenance providers, often build, use, and maintain similar tools that allow them to create, deliver, and transport their own assets and IP between clients. For example, in my previous work experience at HCL Technologies, we used a series of tools that fall under a framework called MASTTM 2.0

⁶¹ Coffel Dep. (12/14/16) 61:1–6.

⁶² Frederiksen-Cross Rep. \P 98–107.

⁶³ *Id.* at ¶¶ 100–102.

(Managed Application Services Tools).⁶⁴ One tool within MASTTM 2.0 assists the support provider with modifications, data conversion, and identifying customized code. Another tool is used as an internal knowledge management portal that allows client account teams to upload information into a repository for use across other clients.

- 65. The alternative to the model Frederiksen-Cross claims violates the Injunction would be for third-party support providers to needlessly recreate common and reusable pieces of code, scripts, and tools from scratch for each and every client. In my experience, this model would be commercially impracticable, requiring engineers to somehow forget the knowledge and experience they gain in servicing multiple clients, or requiring the siloing of engineers such that each engineer services one, and only one, client—forever. Third-party support would effectively be prohibited with respect to Oracle software (which, of course, would benefit Oracle financially by eliminating competition in the support market). Based on my industry experience, I believe that under Frederiksen-Cross's definition, even Oracle's partners that perform Application Support and Maintenance will be at risk of claims that they have violated Oracle's copyrights, including Infosys, Tata Consultancy Services, Accenture, IBM Global Business Services, HCL, Wipro, Cognizant, Deloitte, PwC, and Cap Gemini, to name a few.
- 66. It is my opinion, based on my experience in the industry and review of materials in this post-trial proceeding, that "cross-use" (as it has been interpreted more broadly and expansively over time by Oracle in *Rimini II* and in this proceeding) is in fact a common and necessary industry practice to maintain ERP software. It is also my opinion that the industry would not understand the Injunction to prohibit developing and testing updates for a small set of customers (or a single customer), and then providing those updates to other customers operating the same or similar software, nor would the industry view the Injunction to prohibit creation and use of work product reflecting knowledge and experience an engineer gains in resolving a problem for one client for later use in connection with development work for other clients.

⁶⁴ Oracle Services, HCL, https://www.hcltech.com/oracle-application-framework-services/managed-services (last visited February 15, 2020).

C. Copying JDE Source Code

67.

- 68. As a preliminary matter, I disagree with Frederiksen-Cross's characterization of "source code" because she describes it in abstract, absolute terms, without any nuance and without appreciating that the term "source code" has different meanings in different contexts. In so doing, her opinions fail to address the specific language and context here, including the Court's use of the phrase: "J.D. Edwards software source code" because code of the J.D. Edwards software program, and not "source code" generally, or in the abstract. If Frederiksen-Cross's definition of "source code" were applied to the Injunction, Rimini would be unable to support its JDE clients at all, because Rimini would be prohibited from accessing any JDE code, despite it being common industry knowledge that JDE "Open Code" (defined further below, in paragraph 69) is specifically designed to be customized and, thus, accessed and modified. Frederiksen-Cross's interpretation of the term "source code" in paragraph 5 of the Injunction is thus inconsistent with industry understanding.
- 69. JDE is an enterprise software program that contains both "Open Code" and "Closed Code." The industry understanding has long been that some JDE code, referred to herein as "Open Code," is openly accessible to licensees for the specific purpose of licensees (or their third-party support providers acting on their behalf) modifying, editing, and customizing such code. In fact, this concept of Open Code is based on JDE software being specifically architected and developed to be customized through access to Open Code, and indeed, that is how the products have been marketed, sold, and used by licensees and their third-party support providers, for decades.

⁶⁵ Frederiksen-Cross Rep. ¶ 46.

⁶⁶ *See id.* at ¶ 313.

⁶⁷ Injunction ¶ 8 (emphasis added).

Customization of JDE (through modifications to "Open Code") is common, expected, and frequently necessary in the industry because the software is built to cover a wide variety of customers that operate in very different industries with very different business models. Because JDE was designed to be customized through modification of Open Code, support for JDE software cannot be provided without accessing, modifying, and customizing the Open Code (which would necessarily include ancillary actions such as accessing, moving, copying, and deleting the Open Code for development and testing purposes).

Code is permissible—and in fact required in order to maintain the software—is also based, in part, on the JDE licenses themselves.

The industry understanding that modification, customization, and editing of Open

These provisions would not make sense if it were the case that modifying and then compiling Open Code were prohibited.

71. JDE (and later Oracle) expected and encouraged licensees to use third parties to assist with the implementation, modification, and customization of JDE software, and licensees have long relied on third parties for these services. Indeed, the provision of such services requires third-party access, modification, and customization of the licensee's JDE Open Code. And customization is so prevalent and expected that certain lines of code in the software applications are reserved for customer use (e.g., User Defined Codes in JDE enable customers "to categorize data and make sure that users provide consistent input on forms.").⁶⁹

69

70.

Oracle, Working with User Defined Codes, Oracle Help Center, https://docs.oracle.com/cd/E17984_01/doc.898/e14721/user_defined_codes.htm (last visited Sept. 2, 2019).

⁶⁸ See, e.g., ORCLRS0212607 (Sections I.8 and II.1.C).

- 72. There are two types of JDE applications: World and EnterpriseOne. Both types require modifications to "Open Code" to function at their full capacity. In fact, neither application is designed to be used "as is" straight out of the box; some customization is required at the outset in order for the applications to be useful. Licensees purchased licenses for these applications because they were customizable and could be modified to suit licensees' frequently changing business requirements. For example, the applications must keep pace with regulatory changes, changes to company operational strategy, and changes within the licensees' core business such as new product types, acquisitions/divestitures, and unique processes that convey some degree of competitive advantage. "Open Code" within JDE is code that is provided by the licensor in readily accessible and usable format, particularly in a development environment, including code provided for access, use, modification, and/or customization via development tools included within the JDE licensed software (such as Object Management Workbench ("OMW") within EnterpriseOne), without any use of reverse engineering, disassembly, decompiling, or other similar methodology. By contrast, "Closed Code" within JDE is not readily accessible, represents the core architecture of the software, and requires reverse engineering, disassembly, decompiling, or some other methodology to discover the underlying code that has been compiled or otherwise made inaccessible. Use of OMW and other development tools provided by JDE and later by Oracle is not reverse engineering, disassembly, decompiling, or discovery of the underlying code. In fact, these JDE development tools are part of the software licensed under the JDE (and later Oracle) license, and are specifically provided for manipulating, modifying, maintaining, and customizing the JDE Open Code.
- 73. EnterpriseOne comes with a robust toolkit, the purpose of which is to facilitate the maintenance, configuration, and updating of code modules. Two tools that are part of the toolkit for the JDE Configurable Network Computing ("CNC") architecture are (i) OMW, and (ii) Event Rule Language. OMW is a tool for accessing, managing, and maintaining control of development,

32

modification, customization, and overall maintenance of Open Code objects. Event Rule Language is an easy-to-use tool designed and marketed⁷⁰ for building Open Code objects not by writing code⁷¹ but through the use of "point and click" icons and wizards (self-directed applications), where the Open Code objects created can then be accessed, managed, modified, customized, and maintained via the OMW. One cannot operate or support EnterpriseOne without utilizing this toolkit to modify, customize, and maintain the Open Code.

74. World was originally built for IBM's midrange family (AS/400, System/38, System/36, System/34) and now runs on IBM's Power Systems line of computers. serving the small-to-medium business ("SMB") market. The software allows the licensee to make modifications and customizations, create reports, and keep up with regulatory changes by easily accessing files and making modifications to Open Code via a text editor that provides access to a 4GL programming language known as Report Program Generator ("RPG"). RPG originated as a programming language for generating reports. As such it was designed to be utilized by non-technical personnel. Over the years, RPG evolved into a robust and complete programming language, and it is the programming language that JDE (now Oracle) makes available to licensees so that they can create code for modifying and creating subroutines, handling files, displaying data and generally manipulating the software. A user cannot operate or support World without accessing, modifying, customizing, and maintaining the RPG Open Code.

75. Both EnterpriseOne and World were developed and designed as platforms that were intended to be modified, customized, and maintained to meet licensees' unique business requirements. The only way to accomplish this is to access, use, modify, and customize the Open Code.⁷² Consequently, support of these applications by the licensee or its third-party consultant

⁷⁰ Ex. B at 2, 5.

⁷¹ *Id.* at 5.

OneWorld Integrated Toolset Highlights, J.D. Edwards (1995) , https://web.archive.org/web/19970417210731/http://www.jdedwards.com/gifs/pdf/oneworldt oolset.pdf ("This unique, integrated [OneWorld] toolset maximizes the flexibility of your

requires access, use, customization, and modification to the Open Code to meet licensees' evolving business requirements. When the original software does not closely meet the licensees' business needs, extensive access, use, customization, and modification are required.

76. In addition to the encouragement provided in the marketing materials described above, The formula of the interval of the encouragement provided in the marketing materials described above, The formula of the properties of the

77. JDE (and later Oracle) also recognized that licensees would engage third parties to assist in the implementation and customization of the software. In fact, joint customer meetings with JDE sales personnel and third-party software implementation providers were commonplace. I attended many such meetings and have first-hand knowledge of the related discussions. These meetings emphasized that it was the industry practice and understanding of JDE (and later Oracle), as well as the licensees and consultants, that in the course of providing assistance, these third parties would access, modify, copy, and compile JDE Open Code. In fact, JDE (and later Oracle) invested millions of dollars in their "partner" programs, which officially recognized certain third-party partners as instrumental in supporting JDE licensees. As part of these programs, JDE would assign executives to manage and support the partners as well as provide technical support to their

system while masking technical complexity. You can modify applications, balance processing loads, run reports, and build graphical user interfaces without writing code."). OneWorld's toolset enabled licensees to "modify functionality" using: (1) "Event-Driven Objects: Modify applications without writing code by attaching reusable business rules to event points within programs"; (2) "Programmerless Programming: Business logic drives the modification process. Change the business specifications and the toolset automatically regenerates the appropriate object code"; and (3) "Integrated Change Management: Make your modifications with the same toolset used to build the applications." *Id*.

⁷³ *See id.*

implementation projects when needed. One example is ERP Suites,⁷⁴ which has been an Oracle/JDE partner for over 20 years and has provided JDE implementation, customization, and support services over the years, and continues to publicly market themselves as such.

- 78. JDE (and later Oracle) also supported and encouraged joint marketing initiatives and campaigns between Oracle and such third-party partners that were designed to further penetrate the market and demonstrate that the customizations the potential customer would need could be successfully designed and implemented by the third-party services partner.
 - a. For example, Exhibit C is a campaign that I developed to promote JDE work while I was at MarketSphere Consulting. This campaign was developed with support from Oracle and also involved another technology partner (DSI) whose solution could be integrated with JDE as a customization to enhance its business value.
 - b. Exhibit D is an email to Oracle regarding a planned joint Webcast to promote JDE services together.
- 79. For decades, licensees heavily depended on third-party firms and independent, individual third-party consultants to implement, modify, and customize their JDE software. This reliance on third parties necessarily included accessing, modifying, copying, and maintaining JDE Open Code.
- 80. For example, in the early 1980s, after Congress enacted the Crude Oil Windfall Profit Tax, I was assigned to a small West Texas-based oil company and tasked with customizing their JDE Financial System to accommodate the application of the tax to their unique business requirements. JDE was not interested in creating (and did not create) a one-off customization to accommodate this oil company's unique requirements for accounting for this tax, and the client engaged my firm at the time, Arthur Andersen, to develop and test these customizations to its JDE software, which required accessing, modifying, copying, and compiling the JDE Open Code.

⁷⁴ ERP Suites, http://www.erpsuites.com/ (last visited Sept. 2, 2019).

- 81. Likewise, during my time at MarketSphere Consulting, we had many engagements that involved the implementation and customization of JDE EnterpriseOne and World, including the following examples from 2007 to 2010:
 - <u>JDE Implementation, Biodiesel Producer</u>. As the client continued to grow, a. it realized it had outgrown the limited functionality of its highly manual Excelbased system and sought a software solution that would not only sustain current functionality, but would offer more features and enable greater opportunity for improved business processes. We partnered with the company to perform a rigorous software selection and determined that JDE EnterpriseOne, with some custom add-ons, would best fit the client's needs. Our customization efforts included adding separate screens with new data fields (or adding new data fields to existing screens), coding the logic required to manipulate the new and existing data fields, and creating the table structures to house the new data and create new reports. As in most instances, these customizations and modifications were made utilizing the CNC architecture and the EnterpriseOne developer toolkit. We used the OMW to manage the code package build process (which necessarily included accessing, modifying, copying, and compiling JDE Open Code) and to later test and deploy the code packages. This client had several unique business needs. First, it needed its software to handle sophisticated requirements for the multi-modal shipment of biodiesel, which involved allowing the user to assess multiple possible shipping options, e.g., least cost, preferred routes, percent by carrier, etc. Second, the client also required customizations related to the automation of freight vouchers and payables, as well as seamless integration with another application, Oracle Transportation Management. Key benefits realized by the client included enriched planning and tracking, increased automation, and enhanced reconciliation.
 - b. <u>JDE Implementation, International Pet Food Manufacturer</u>. The client required replacement of some legacy accounting and supply chain systems with

> JDE EnterpriseOne 8.12 ("E1"), due to reporting limitations and the inability to easily trace inventory. These JDE applications had to be integrated with both the existing manufacturing applications and the existing quality management and HR/Payroll systems. We utilized our experienced team to implement all of the E1 modules and integrate them with three other software products that were implemented simultaneously. We designed/implemented multiple customizations and reports. Some customizations were related to integrating JDE with the existing applications, such as a custom payroll reconciliation function. customizations targeted functionality for addressing the client's unique shipping requirements, interplant transfer needs and specific materials receiving processes functionality that did not exist within JDE. We also created a custom reporting engine that overlaid these multiple systems and provided a business intelligence capability, and assisted with system training, led the conversion effort of legacy data from two systems into E1, and were able to achieve go-live within six months. Many of these activities necessarily required accessing, modifying, copying, and compiling JDE Open Code. Benefits of the integration included a single version of the truth to permit better decision making, increased process controls and data security to reduce the number of user errors, and easier allowance for future expansion and growth.

82.	Frederiksen-Cross's opinions concerning JDE support are also in conflict with
Oracle's prior	testimony and positions in Rimini II,
75	

In conclusion, based on my decades of industry experience, and supported by the 83. materials I reviewed in this proceeding and in Rimini II, it is my opinion that the industry understands that JDE licensees could (and were expected to) access, enhance, modify, copy, and maintain the Open Code of JDE software themselves, or hire the vendor or third parties to do so in the course of implementing, integrating, and supporting the software over its lifecycle. Further, JDE (and later Oracle) would commonly support their third-party partners' and licensees' implementation projects with resources and expertise and would promote the flexibility that comes with customization, enhancements, and modifications in order to close license deals. All of these practices necessarily require the licensee or a third-party consultant to access, copy, and extensively modify JDE Open Code. Indeed, it would be impracticable (and effectively impossible) to use, maintain, or support JDE software in a meaningful way without doing so. Conversely, the use, customization, maintenance, and support of JDE software has not historically required, and does not today require, the decompiling of JDE Closed Code. Thus, it is my opinion that the industry would understand the Injunction's prohibition against "copy[ing] J.D. Edwards software source code to carry out development and testing of software updates" as prohibiting only the decompiling of JDE Closed Code, and not, as Frederiksen-Cross contends, accessing or copying JDE Open Code.

.76 This opinion conflicts with the way in which the industry understands that JDE licensees may use their software. In my



⁷⁶ Frederiksen-Cross Rep. ¶¶ 305–306.

experience, it is widely understood in the industry that creation of RAM copies of JDE software by a licensee, or by a licensee's third-party support provider, is a permissible, and, indeed, necessary use of JDE software. In fact, the industry understands the creation of RAM copies to be a necessary function of the software itself, and to occur any time the software is operated. For this reason,

would effectively preclude Rimini from providing support for JDE altogether because it is impossible to support JDE clients without loading their software "into system memory" (*i.e.*, without making RAM copies). But my understanding, as discussed above in paragraphs 24 to 25, is that third-party support *is* permitted. And the fact that the Injunction limits the *type* of support Rimini can provide—but does not prohibit it altogether—is consistent with my understanding and experience in the industry that third-party support is widely accepted. It is my opinion therefore that the industry would not understand paragraph 8 of the Injunction to prohibit in-memory copies of JDE software.

85. Frederiksen-Cross's broad interpretation of paragraph 8 of the Injunction would also create internal conflicts with other provisions of the Injunction covering Rimini's JDE support processes, effectively rendering them superfluous (*i.e.*, paragraphs 7, and 9–10). This is because RAM copies are created any time someone uses JDE software—because to run the software, it must be loaded "into computer memory" (*i.e.*, creating RAM copies); this is true whether someone is loading the software to provide support, or simply to run the software. If such a broad interpretation of the Injunction were accurate, there would be no need for the other provisions of the Injunction with respect to JDE. In other words, under Frederiksen-Cross's interpretation, because Rimini would violate the Injunction simply by loading JDE software, without doing anything further, there would be no need for the Court to have included the other provisions that restrict (but do not prohibit) the manner in which Rimini may provide third-party support for JDE, which third-party support is, as noted, common and widely accepted in the industry

⁷⁷ *See id.*

D.	Actions	Invol	lving	Oracl	le I)ata	base
----	---------	-------	-------	-------	------	------	------

86.					
	_				

- 87. I disagree with Frederiksen-Cross's interpretation of paragraph 15 of the Injunction as it is inconsistent with industry understanding. It is my experience and understanding, based on decades working for and with Oracle Database licensees, as well as the materials I have reviewed in this proceeding and in *Rimini II*, that the industry would understand a prohibition on "reproduction" to pertain to the creation of unlicensed instances of Oracle Database, and not the creation of in-memory (*i.e.*, RAM) copies. I understand this opinion is also consistent with the Court's order in *Rimini I*, which found that impermissible copying occurred when Rimini "built [unlicensed] development, or non-production, environments for a number of Rimini customers using Oracle Database." 80
- 88. Oracle Database, also known as Oracle RDBMS, is relational database software, and is a database designed to support a variety of ERP software applications (both Oracle applications and other vendors' applications, such as SAP). It is common industry practice for

⁷⁸ *Id.* at ¶ 358.

⁷⁹ See id.

⁸⁰ See Oracle USA, Inc. v. Rimini Street, Inc. ("Rimini I"), 879 F.3d 948, 960 (9th Cir. 2018).

Oracle licensees (and licensees of other vendors' ERP software) to utilize Oracle Database as an engine to store and manage their enterprise data. The application layer and database layer rely on each other and work together. With every transaction that an ERP application executes, the application relies on SQL database commands to retrieve and write data to the database. In the case of Oracle Database, the ERP software application layer relies on Oracle's PL/SQL database commands; this is how the application interfaces with the database. It is common industry practice, and widely understood in the industry, that licensees of ERP applications that also license Oracle Database, may run both systems concurrently without violating any provisions of their licenses. In fact it is industry understanding that these systems are designed to operate together.

- 89. Based on my review of records in *Rimini I*, I understand that Oracle did not contend that RAM copies of Oracle Database constituted copyright infringement. Instead, I understand that Oracle's position in *Rimini I* was that Rimini could not host on its own servers (*i.e.*, "locally host") Oracle Database environments downloaded from Oracle's websites without a license. I also understand that Oracle's position in *Rimini I* was that Rimini could not make copies of "locally hosted" environments of Oracle Database or use "locally hosted" environments to develop software updates that were distributed to multiple clients.⁸¹ Frederiksen-Cross does not offer any opinions in her report on these positions concerning local hosting of Oracle Database that Oracle took in *Rimini I*.⁸²
- 90. It is understood in the industry that Oracle Database is one of the most popular and widely used relational database software products available on the market, and a large segment of Oracle Database licensees receive support for their ERP software applications that run on Oracle Database from third-party providers. To my knowledge, Oracle has never claimed (before this post-trial proceeding) that these third-party support providers infringe Oracle's intellectual property rights in its Oracle Database software by supporting ERP applications that run on Oracle

⁸¹ See generally Rimini I, ECF No. 417 (Oracle Motion for Summary Judgment).

⁸² See Frederiksen-Cross Rep. ¶¶ 358–359.

Database. Indeed, Oracle approved of Spinnaker's support of JDE, which operates on Oracle Database, as discussed above.

91. Further, in my experience, the industry does not understand the creation of inmemory copies (*i.e.*, the creation of RAM copies) of Oracle Database to be in conflict with Oracle's software licenses, nor does the industry consider the creation of RAM copies to otherwise violate Oracle's intellectual property rights. To the contrary, creation of RAM copies is widely considered to be a necessary function of a user's (or software support provider's) use of the software. This is because any time a user of Oracle Database loads the software (whether to support the software or simply to operate it), RAM copies are made. In other words, the software cannot function without creating RAM copies, and the creation of RAM copies is understood in the industry to be a necessary function of Oracle Database software. Indeed, in the Ninth Circuit's opinion in the *Rimini I* appeal, the court acknowledged that "the very work of maintaining customized software requires copying the software."⁸³

92. Frederiksen-Cross's interpretation of the Injunction with respect to Oracle Database is so broad that it would not only prohibit Rimini from supporting those Oracle product lines, it would also prohibit Rimini from supporting clients with software that was not at issue in *Rimini I*, including SAP and any other ERP application layer for which Oracle Database is the underlying database. Again, as discussed above at paragraphs 24 to 25, I understand that third-party support *is* permitted. And the fact that the Injunction limits the *type* of support Rimini can provide—but does not prohibit it altogether—is consistent with my understanding and experience in the industry that third-party support is widely accepted. It is my opinion therefore that the industry would not understand paragraph 15 of the Injunction to prohibit in-memory copies of Oracle Database software.

⁸³ Rimini I, 879 F.3d at 956.